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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,333	12/16/2003	Stephen P. Goldschmidt	9501-73714	7566
23643	7590	07/12/2005	EXAMINER	
BARNES & THORNBURG 11 SOUTH MERIDIAN INDIANAPOLIS, IN 46204			TRAN, BINH Q	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/737,333	GOLDSCHMIDT ET AL.	
	Examiner	Art Unit	
	BINH Q. TRAN	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/26/04; 03/30/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-48 are rejected under 35 U.S.C. 102 (b) as being anticipated by Caren et al. (Caren) (Patent Number 6,321,531).

Regarding claims 1, 25-26, Caren discloses a circuit for providing a potential difference across a gap between two electrodes of a utilization device (e.g. 30, 40, 50, 70, 80, 100, 110, 130, 170, 1020), the circuit including a power source (e.g. 1000), a transformer (e.g. 1022) including a primary winding (e.g. 1034) and a secondary winding (e.g. 1036) for coupling across the

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electrodes (e.g. 101, 102, 174, 176), the power source coupled to the primary winding, a first switch coupled to one of the two terminals of the primary winding, and a second switch coupled to the other of the two terminals of the primary winding (e.g. 1032) (e.g. See col. 32, lines 24-67; cols. 33-35, lines 1-67; col. 36, lines 1-53).

Regarding claims 2, 30, Caren further discloses that each of the switches further includes a second terminal coupled to the source (e.g. See col. 32, lines 24-67; cols. 33-35, lines 1-67; col. 36, lines 1-53).

Regarding claims 3, 32, Caren further discloses a source of operating frequency signals, the switches being coupled to the source of operating frequency signals (e.g. See cols. 37-41, lines 1-67).

Regarding claims 4, 36, Caren further discloses that the source of operating frequency signals comprises a source of signals at a frequency which is between about 0.1 times a resonant frequency of a circuit including the secondary winding and about 10 times said resonant frequency (e.g. See cols. 37-41, lines 1-67).

Regarding claims 5, 37, Caren further discloses that the electrodes, said circuit including the secondary winding further including the electrodes coupled across the secondary winding (e.g. See col. 32, lines 24-67; cols. 33-35, lines 1-67; col. 36, lines 1-53).

Regarding claims 6, 33, Caren further discloses that the switches comprise solid-state switches, each switch including a control terminal coupled to the source of operating frequency signals (e.g. See col. 32, lines 24-67; cols. 33-35, lines 1-67; col. 36, lines 1-53).

Regarding claims 7, 34, Caren further discloses that the switches comprise insulated gate bipolar transistors (e.g. See col. 32, lines 24-67; cols. 33-35, lines 1-67; col. 36, lines 1-53).

Regarding claims 8, 35, Caren further discloses that the switches comprise field effect transistors (e.g. See col. 32, lines 24-67; cols. 33-35, lines 1-67; col. 36, lines 1-53).

Regarding claims 9, 38, Caren further discloses that the utilization device comprises one of: a fuel reformer; an oxides of nitrogen trap; and, a soot filter regenerator (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 10, 31, Caren further discloses that the transformer comprises a core, the primary winding surrounding the core, the secondary winding surrounding the primary winding and wound in sections (e.g. See col. 32, lines 24-67; cols. 33-35, lines 1-67; col. 36, lines 1-53).

Regarding claim 11, Caren further discloses that the source of operating signals comprises a source of signals having a fundamental frequency between about 20 KHz and about 100 KHz (e.g. See cols. 37-41, lines 1-67).

Regarding claim 12, Caren further discloses that the source of operating frequency signals comprises a source of operating frequency signals having a fundamental frequency between about 500 Hz and about 250 KHz modulated by a modulating signal having a frequency between about 50 Hz and 50 KHz (e.g. See cols. 37-41, lines 1-67).

Regarding claim 13, Caren further discloses that the source of operating frequency signals comprises a source of operating frequency signals having a fundamental frequency between about 20 KHz and about 100 KHz modulated by a modulating signal having a frequency between about 2 KHz and about 10 KHz, the modulating signal having a variable pulsewidth defining a duty cycle (e.g. See cols. 37-41, lines 1-67).

Regarding claim 14, Caren further discloses that the source of operating frequency signals comprises a source of operating frequency signals having a fundamental frequency between about 20 KHz and about 100 KHz modulated by a modulating signal having a frequency between about 2 KHz and about 10 KHz, the modulating signal having a variable pulsewidth defining a duty cycle between about 20% and about 100% (e.g. See cols. 37-41, lines 1-67).

Regarding claims 15, 39, Caren further discloses that a sensor (e.g. 14, 16) coupled to the source of operating frequency signals and adapted to sense a parameter of the utilization device (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 16, 40, Caren further discloses that the sensor comprises a device for providing a temperature-related output signal (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 17, 41, Caren further discloses that the sensor comprises a device for providing a pressure-related output signal (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 18, 42, Caren further discloses that the sensor comprises a timer which times elapsed time since the occurrence of an event (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 19, 43, Caren further discloses that the sensor comprises a device for sensing the time duration of each of multiple states of a system capable of assuming multiple states, for assigning respective weights to the sensed time durations, for accumulating the weighted, sensed time durations, and for providing an output when the accumulated, weighted, sensed time durations reach a threshold (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 20, 44, Caren further discloses that the comprising a device for sensing the time duration of each of multiple states of a system capable of assuming multiple states comprises a device for sensing the time duration of operation of an engine in each of multiple ranges of at least one of engine load and engine torque (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 21, 45, Caren further discloses that the sensor comprises a device for sensing the time duration of operation of an engine in each of multiple ranges of both engine load and engine torque (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 22, 46, Caren further discloses that the sensor comprises a device for providing an output signal related to a concentration of a component of a fluid stream (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 23, 47, Caren further discloses that the sensor comprises a device for providing an output signal related to a concentration of a gas or mixture of gases in a gas stream (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 24, 48, Caren further discloses that the device for providing an output signal related to a concentration of a gas or mixture of gases in a gas stream comprises a device for providing an output signal related to the concentration of at least one of oxides of nitrogen, nitrogen and oxygen in a gas stream (e.g. See col. 15, lines 50-67; col. 16, lines 1-60).

Regarding claims 27, Caren further discloses that the a dielectric (e.g. 43, 103, 151, 152) interposed between the core and the primary winding (e.g. See col. 20-24, lines 1-67).

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Regarding claims 28, Caren further discloses that the secondary winding is wound around the primary winding (e.g. See col. 20-24, lines 1-67).

Regarding claims 29, Caren further discloses that the a dielectric interposed between the primary winding and the secondary winding (e.g. See col. 20-24, lines 1-67).

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents:

Yamagishi et al. (Pat. No. 6639813), Saint-Pierre et al. (Pat. No. 6081438), Anzawa (Pat. No. 6205036), Hancock et al. (Pat. No. 5845488), and Williamson et al. (Pat. No. 5822981) all discloses a power supply for a circuit control.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT
July 08, 2005



Binh Q. Tran
Patent Examiner
Art Unit 3748